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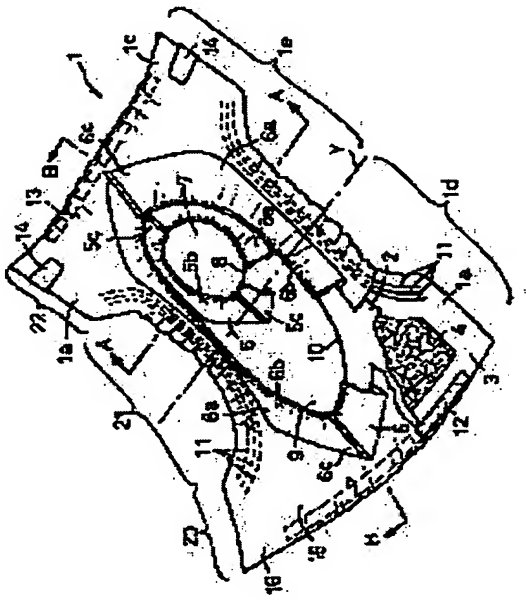
(54) DISPOSABLE DIAPER

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent the mixing of discharged urine with stool.

SOLUTION: A disposable diaper is constituted of a laminated panel 1 consisting of a top sheet 2, a back sheet 3, the core 4 interposed between these sheets 2, 3 and the first leak-proof sheet 5 extending on the outer surface of the top sheet 2 in an annular shape and the outer peripheral edge part 5a of the first leak-proof sheet 5 positioned on the latter half region 1e of the panel 1 is fixed to the panel 1 to demarcate a first opening part 7 to the almost central part of the first leak-proof sheet 5 and the second leak-proof sheet 6 surrounding the first leak-proof sheet 5 to extend in an annular shape is positioned on the first and latter half parts 1d, 1e of the panel 1 and the outer peripheral edge part 6a of the second leak-proof sheet 6 is fixed to the peripheral edge part of the panel 1 to demarcate a second opening part 8 to the almost central part of the second leak-proof sheet 6.



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* NOTICES *

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CLAIMS

[Claim(s)]
[Claim 1] A liquid permeability top sheet, a non-liquid-permeable nature backseat, and the absorbent core that intervenes among these sheets, The edges-on-both-sides section to which it consists of laminated panels equipped with the 1st watertight sheet of the liquid resistance annularly prolonged by the appearance of said top sheet, and said panel extends to a lengthwise direction in parallel mutually, It has the edge section before and after extending to a longitudinal direction in parallel mutually. The periphery edge of said 1st watertight sheet In the disposable diaper with which it fixes on said panel, the 1st opening is formed by the abbreviation center section of said 1st watertight sheet, and the inner circumference edge of said 1st watertight sheet has elastic elasticity along with said 1st opening A part for the first portion by which said 1st watertight sheet goes to the front end edge of said panel near [which bisects the dimension of the edges-on-both-sides section of said panel to said lengthwise direction, and extends to said longitudinal direction] the horizontal center line, It is located in either of the parts the second half in which it goes to the trailing edge of said panel near [said] the horizontal center line. The 2nd watertight sheet of the liquid resistance which surrounds said 1st watertight sheet and is prolonged annularly It is located in a part in a part for the first portion, and the second half of said panel. The periphery edge of said 2nd watertight sheet Said diaper with which it fixes in the periphery section of said panel, the 2nd opening is formed by the abbreviation center section of said 2nd watertight sheet, and the inner circumference edge of said 2nd watertight sheet is characterized by having elastic elasticity along with said 2nd opening.
[Claim 2] The diaper according to claim 1 which the periphery edge of said 1st watertight sheet was located inside said panel rather than the periphery edge of said 2nd watertight sheet, and said top sheet has exposed between the periphery edges of these sheets.
[Claim 3] The diaper according to claim 1 or 2 which the inner circumference edge of said 1st watertight sheet was located inside said panel rather than the inner circumference edge of said 2nd watertight sheet, and the whole region of said 1st opening has exposed from said 2nd opening.
[Claim 4] claim 1 whose water pressure-proof of said 1st watertight sheet said 1st watertight sheet and said 2nd watertight sheet are formed with a nonwoven fabric, and is more than it of said 2nd watertight sheet thru/or claim 3 -- a diaper given in either.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the disposable diaper for absorbing and holding excrement.
[0002]
[Description of the Prior Art] JP,5-277149,A A liquid permeability top sheet and a non-liquid-permeable nature backseat, It has the absorbent core which intervenes among these sheets, and the top-face sheet of the liquid resistance which is located in the outside surface of a top sheet and is prolonged annularly. The periphery edge of a top-face sheet is joined by the outside surface of a top sheet, long opening is formed by the abbreviation center section of the top-face sheet to a lengthwise direction, and the disposable diaper with which the elastic member expanded and contracted to a lengthwise direction in the periphery section of opening of a top-face sheet was attached is indicated. A diaper can prevent the leakage of the excrement from the edges-on-both-sides section of a diaper, and the order edge section by attaching in the outside surface of a top sheet the top-face sheet prolonged annularly.
[0003]
[Problem(s) to be Solved by the Invention] Since the urine and facilities which were excreted inside opening are inseparable, the urine which flows the outside surface of a top sheet, and a loose passage and watery stool may be mixed, or it may be mixed with urine and the diaper of the disclosure to JP,5-277149,A may be loose-passage-ized, even if it is solid facilities. When the mixture of urine and facilities adheres to a wearer's skin, a wearer memorizes displeasure.
[0004] The technical problem of this invention is to offer the disposable diaper which can prevent mixing these urine and facilities, preventing the excreted urine and facilities leaking from the edges-on-both-sides section of a diaper, and the order edge section.
[0005]
[Means for Solving the Problem] In order to solve the technical problem mentioned above, a premised place [this invention] A liquid permeability top sheet, a non-liquid-permeable nature backseat, and the absorbent core that intervenes among these sheets, The edges-on-both-sides section to which it consists of laminated panels equipped with the 1st watertight sheet of the liquid resistance annularly prolonged by the appearance of said top sheet, and said panel extends to a lengthwise direction in parallel mutually, It has the edge section before and after extending to a longitudinal direction in parallel mutually. The periphery edge of said 1st watertight sheet It fixes on said panel, the 1st opening is formed by the abbreviation center section of said 1st watertight sheet, and the inner circumference edge of said 1st watertight sheet is the disposable diaper which has elastic elasticity along with said 1st opening.
[0006] In this premise, the place by which this invention is characterized A part for the first portion by which said 1st watertight sheet goes to the front end edge of said panel near [which bisects the dimension of the edges-on-both-sides section of said panel to said lengthwise direction, and extends to said longitudinal direction] the horizontal center line, It is located in either of the parts the second half in which it goes to the trailing edge of said panel near [said] the horizontal center line. The 2nd watertight sheet of the liquid resistance which surrounds said 1st watertight sheet and is prolonged annularly It is located in a part in a part for the first portion, and the second half of said panel. The

periphery edge of said 2nd watertight sheet It fixes in the periphery section of said panel, the 2nd opening is formed by the abbreviation center section of said 2nd watertight sheet, and the inner circumference edge of said 2nd watertight sheet is to have elastic elasticity along with said 2nd opening.
[0007] As an example of the mode of operation of this invention, the periphery edge of said 1st watertight sheet was located inside said panel rather than the periphery edge of said 2nd watertight sheet, and said top sheet is exposed between the periphery edges of these sheets.
[0008] the voice of operation of this invention -- as other examples [like], the inner circumference edge of said 1st watertight sheet was located inside said panel rather than the inner circumference edge of said 2nd watertight sheet, and the whole region of said 1st opening is exposed from said 2nd opening.
[0009] the voice of operation of this invention -- as other examples [like], said 1st watertight sheet and said 2nd watertight sheet are formed with a nonwoven fabric, and the water pressure-proof of said 1st watertight sheet is more than it of said 2nd watertight sheet.
[0010]
[Embodiment of the Invention] It is as follows when the detail of the disposable diaper concerning this invention is explained with reference to an attached drawing.
[0011] Drawing 1 is the partial fracture perspective view of a disposable diaper. The diaper consists of laminated panels 1 equipped with the absorbent core 4 which intervenes between the liquid permeability top sheet 2, the non-liquid-permeable nature backseat 3, and the top sheet 2 and a backseat 3, the 1st watertight sheet 5 of the liquid resistance annularly prolonged in the outside surface side of the top sheet 2, and the 2nd watertight sheet 6 of the liquid resistance which surrounds the 1st watertight sheet 5 and is annularly prolonged in the outside surface side of the top sheet 2. A panel 1 has the length-from-the-crotch-to-the-cuff region 21 located in a lengthwise direction between the circumference region 20 of a forward fuselage assembly, the circumference region 22 of a back drum, and the circumference regions 20 and 22 of an order drum, and has the edge sections 1b and 1c before and after extending to a lengthwise direction in parallel mutually and extending to a longitudinal direction mutually in parallel to edges-on-both-sides section 1a which draws an arc toward a way in the length-from-the-crotch-to-the-cuff region 21 among panels 1.
[0012] The 1st watertight sheet 5 is located in partial 1e the second half in which it goes to trailing edge 1c of a panel 1 near [which bisects the dimension of edges-on-both-sides section 1a of a panel 1 to a lengthwise direction, and extends to a longitudinal direction] the horizontal center line Y, and has periphery edge 5a prolonged annularly, inner circumference edge 5b annularly prolonged in the inside of periphery edge 5a, and lengthwise direction both-ends 5c joined to the bottom of mutual contact.
[0013] The 1st long opening 7 is formed by the abbreviation center section of the 1st watertight sheet 5 to the lengthwise direction which the abbreviation one half of the length-from-the-crotch-to-the-cuff region 21 and the abbreviation one half of the circumference region 22 of a back drum expose. In the 1st opening 7, the top sheet 2 is exposed. The elastic elasticity member 8 is attached in inner circumference edge 5b of the 1st watertight sheet 5 in the state of expanding.
[0014] The 2nd watertight sheet 6 is located in 1d of first portion parts and second half partial 1e of a panel 1 which go to front end edge 1b of a panel 1 near the horizontal center line Y, and has periphery edge 6a prolonged annularly, inner circumference edge 6b annularly prolonged in the inside of periphery edge 6a, and lengthwise direction both-ends 6c joined to the bottom of mutual contact.
[0015] The 2nd long opening 9 is formed by the abbreviation center section of the 2nd watertight sheet 6 to the lengthwise direction which the abbreviation one half of the length-from-the-crotch-to-the-cuff region 21 and the circumference regions 20 and 22 of an order drum exposes. Inner circumference edge 6b of the 2nd watertight sheet 6 is located in the outside of inner circumference edge 5b of the 1st watertight sheet 5, and the 2nd opening 9 surrounds the 1st opening 7. In the 2nd opening 9, the top sheet 2 was exposed to 1d of first half parts of a panel 1, and the whole region of the 1st opening 7 is exposed to second half partial 1e of a panel 1. The elastic elasticity member 10 is attached in inner circumference edge 6b of the 2nd watertight sheet 6 in the state of expanding. From periphery edge 6a of the 2nd watertight sheet 6, the support sheet 15 of liquid resistance is prolonged

to the method of the outside of the direction of the surroundings of periphery edge 6a.
[0016] The elastic member 11 for the circumferences of a foot prolonged to a lengthwise direction is attached in edges-on-both-sides section 1a of a panel 1 in the state of expanding, and the elastic members 12 and 13 for the circumferences of a drum of the shape of a film prolonged to a longitudinal direction in the panel 1 order edge sections 1b and 1c intervene between the top sheet 2 and a backseat 3, and are attached in one [at least] inner surface of these sheets 2 and 3 in the state of expanding. The tape fastener 14 prolonged to the method of the inside of a longitudinal direction is attached in edges-on-both-sides section 1a of the panel 1 in the circumference region 22 of a back drum, and the target tape (not shown) of the rectangle used as the firm attachment region of the tape fastener 14 is attached in the outside surface of the backseat 3 in the circumference region 20 of a forward fuselage assembly.
[0017] In drawing 1 , the expanding condition of the elastic members 8 and 10 attached in the 1st and 2 watertight sheets 5 and 6, the elastic member 11 for the circumferences of a foot, and the elastic members 12 and 13 for the circumferences of a drum is canceled, and gathers are formed along with the inner circumference edges 5a and 6a of the 1st and 2 watertight sheets 5 and 6, edges-on-both-sides section 1a of a panel 1, and the panel 1 order edge sections 1b and 1c.
[0018] Drawing 2 and 3 are with the perspective view of the diaper in which the A-A line view cross section of drawing 1 is shown, and the B-B line view sectional view of drawing 1 . The 1st watertight sheet 5 is in the condition that a part of the periphery edge 5a was bent among panels 1 to the way, and it fixed on the outside surface of the top sheet 2, among those a part of periphery section 5b was bent among panels 1 to the way, and it has covered the elastic member 8. In lengthwise direction both-ends 5c of the 1st watertight sheet 5, the fixing region of lengthwise direction both-ends 5c has extended toward the method of the outside of a lengthwise direction of a panel 1.
[0019] Where a part of the periphery edge 6a is bent among panels 1 to a way, it fixed on the outside surface of a support sheet 15, among those a part of periphery section 6b was bent among panels 1 to the way, and the 2nd watertight sheet 6 has covered the elastic member 10. In lengthwise direction both-ends 6c of the 2nd watertight sheet 6, the fixing region of lengthwise direction both-ends 6c has extended toward the method of the outside of a lengthwise direction of a panel 1.
[0020] In the second half, by partial 1e, periphery edge 5a of the 1st watertight sheet 5 and periphery edge 6a of the 2nd watertight sheet 6 estranged mutually, and the top sheet 2 is exposed between periphery edge 5a of these sheets 5 and 6, and 6a. If a panel 1 carries out the inner surface inside and curves in a lengthwise direction and a longitudinal direction, the pocket P1 in which the 1st watertight sheet 5 and the top sheet 2 carry out opening toward a way among panels 1 will be formed, and the pocket P2 in which the 2nd watertight sheet 6 and the top sheet 2 carry out opening toward a way among panels 1 will be formed.
[0021] The top sheet 2 extended from edges-on-both-sides section 4a of a core 4 slightly to the method of the outside of a longitudinal direction, and has extended from ends edge 4b of a core 4 slightly to the method of the outside of a lengthwise direction. The backseat 3 and the support sheet 15 have extended from the periphery of the top sheet 2 further to the method of the outside of a longitudinal direction, and the method of the outside of a lengthwise direction. The inner surface of a support sheet 15 has fixed to the outside surface of the top sheet 2, and the inner surface of a backseat 3. Between a backseat 3 and a support sheet 15, the elastic member 11 for the circumferences of a foot intervenes, and it is attached in one [at least] inner surface of these sheets 3 and 15 in the state of expanding. The core 4 is joined by one [at least] inner surface of the top sheet 2 and a backseat 3.
[0022] If a panel 1 attaches the tape fastener 14 firmly to a target tape through the binder applied to the inner surface of the free edge of the tape fastener 14, circumference opening of a foot of a left Uichi pair and circumference opening of a drum will be formed (not shown).
[0023] The facilities by which the urine with which the panel 1 was excreted in the 2nd opening 9 of the first portion of a panel 1 which carries out opening by 1d per part was excreted in the 1st opening 7 which it is absorbed by the core 4 through the top sheet 2, and carries out opening by second half partial 1e of a panel 1 are absorbed by the core 4 through the top sheet 2. Since the 1st watertight sheet 5 has the function to separate a urine absorption region and a facilities absorption region in the

panel 1 order half parts 1d and 1e The 1st watertight sheet 5 can serve as an obstruction, and it can prevent that the facilities excreted in the 1st opening 7 invading into 1d of first half parts of a panel 1 and urine invade in the 1st opening 7, and can prevent mixing urine and facilities mutually.
[0024] By the panel 1, since the excreted facilities can be held in a pocket P1, even if the facilities of a large quantity are excreted, it can prevent that facilities invade into 1d of first half parts of a panel 1. Since between periphery edge 5b of the 1st watertight sheet 5 and periphery edge 6b of the 2nd watertight sheet 6 which are located in second half partial 1e of a panel 1 can be flowed even when the urine excreted by 1d of first half parts of a panel 1 flows toward trailing edge 1c of a panel 1, also in second half partial 1e of a panel 1, urine is absorbable.
[0025] the sheet of liquid permeability [sheet / 2 / top], such as a nonwoven fabric and a puncturing plastic film, -- it is liquid permeability preferably and the sheet of a hydrophilic property is used. a backseat 3 -- the lamination sheet of the plastic film of non-liquid-permeable nature or a plastic film, and a hydrophobic nonwoven fabric -- the sheet of aeration non-liquid-permeable nature is used preferably. the 1st and 2 watertight sheets 5 and 6 and a support sheet 15 -- a permeability nonwoven fabric -- the nonwoven fabric of aeration non-liquid-permeable nature is used preferably. The water pressure-proof of the 1st watertight sheet 5 is more than it of the 2nd watertight sheet 6, and it is desirable that the range of 150-500mm and the water pressure-proof of the 2nd watertight sheet 6 have the water pressure-proof of the 1st watertight sheet 5 in the range of 50-300mm. Since many organic substance, such as protein and a lipid, is contained in facilities, as compared with urine, the surface tension to these watertight sheets 5 and 6 is small. Moreover, since the organic substance and polyolefine system resin in facilities have compatibility when the fiber which forms a nonwoven fabric is polyolefine system resin, facilities tend to sink into a nonwoven fabric as compared with urine. Therefore, in order that facilities may make it hard to sink into the 1st watertight sheet 5, water pressure-proof of the 1st watertight sheet 5 is made higher than the 2nd watertight sheet 6.
[0026] As a nonwoven fabric, nonwoven fabrics, such as a span ball race, needle punch, melt-blown ** thermal bond, a span pound, and chemical bond, can be used. As configuration fiber of a nonwoven fabric, the bicomponent fiber of each fiber of polyolefine system, polyester system, and polyamide system **, polyethylene/polypropylene, or polyester etc. can be used.
[0027] A core 4 is the mixture of fluff pulp and a superabsorbency polymer particle, it is compressed into necessary thickness and the whole is covered with permeable sheets, such as a tissue paper. As elastic members 8, 10, 11, 12, and 13, what fixed elastomers, such as synthetic rubber and natural rubber, or these elastomers to the nonwoven fabric in the state of expanding can be used. The technique of heat joining other than adhesives, such as hot melt adhesive, or a binder can be used for fixing of junction of a core 4, installation of elastic members 8, 10, 11, 12, and 13, sheets 2, 3, 5, and 6, and 15.
[0028] The 1st watertight sheet 5 may be arranged at 1d of first half parts of a panel 1 at a panel 1, and the 1st opening 7 may be formed by 1d of first half parts of a panel 1. In this case, the urine excreted in the 1st opening 7 of the first portion of a panel 1 which carries out opening by 1d per part is absorbed by the core 4 through the top sheet 2, and the facilities excreted in the 2nd opening 9 which carries out opening by second half partial 1e of a panel 1 are absorbed by the core 4 through the top sheet 2. In first portion part 1d, the 1st watertight sheet 5 can serve as an obstruction, and it can prevent that facilities' invading in the 1st opening 7 and urine invade into second half partial 1e of a panel 1, and can prevent mixing urine and facilities mutually.
[0029] This invention can carry out the diaper of a trousers mold besides the diaper of the open sand mold shown in drawing.
[0030]
[Effect of the Invention] Since according to the disposable diaper concerning this invention the 1st watertight sheet serves as an obstruction even if either of the urine and facilities which were excreted tends to flow, it can prevent mixing these urine and facilities. Since the 1st watertight sheet and the 2nd watertight sheet are annularly prolonged by the appearance of a top sheet, it can prevent the excreted urine and facilities leaking from the edges-on-both-sides section of a diaper, and the order edge section.

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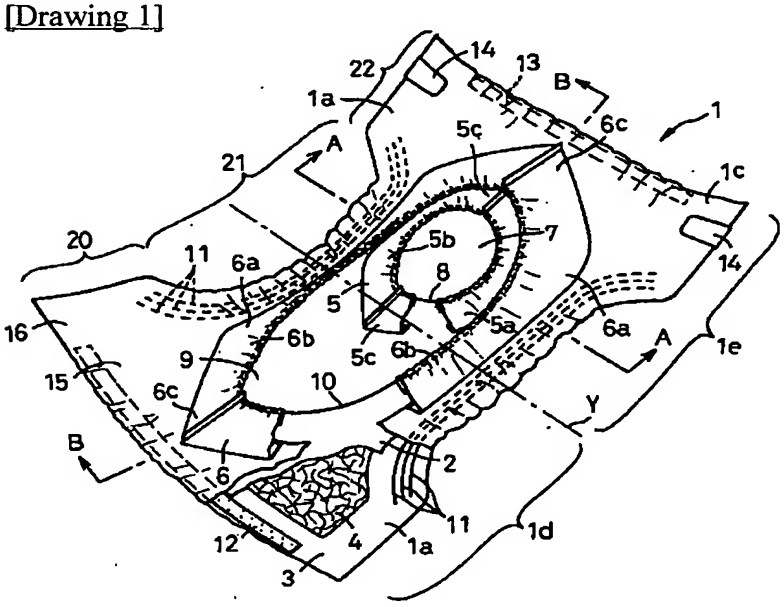
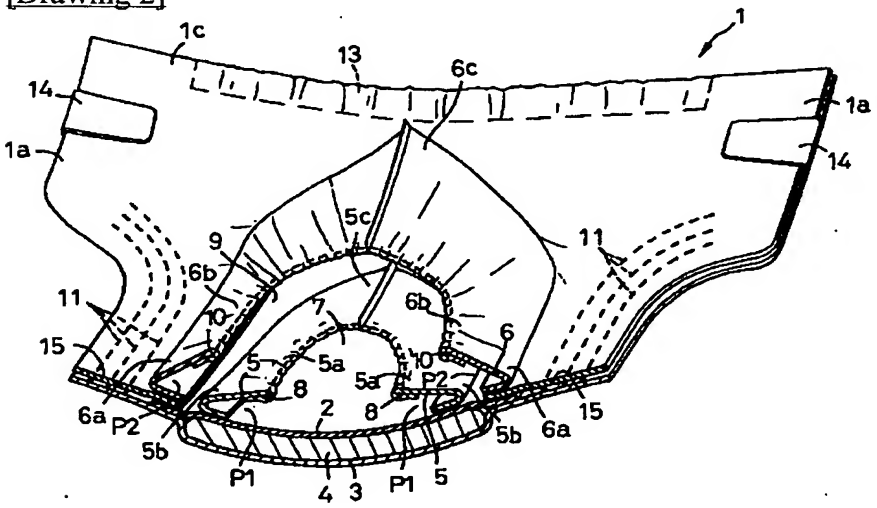
DRAWINGS

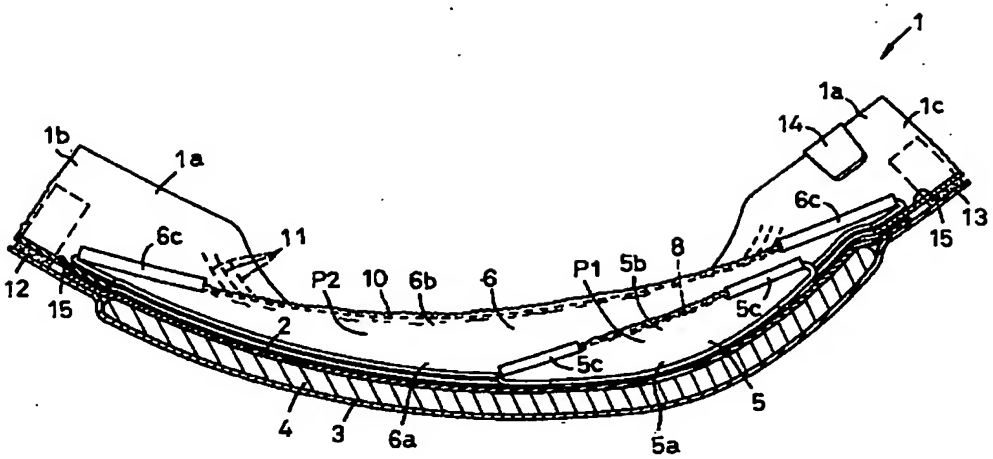
[Drawing 1]



[Drawing 2]



[Drawing 3]



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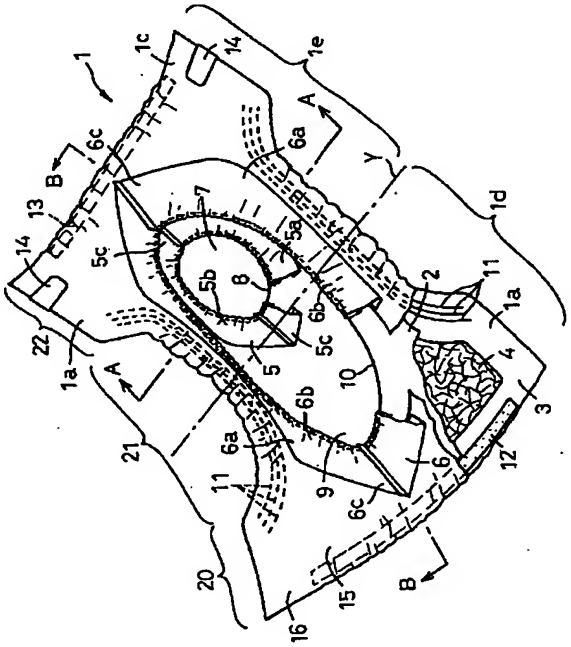
最終頁に続く

(54)【発明の名称】　使い捨ておむつ

(57)【要約】
【課題】　排泄された尿と便とが混じり合うことを防ぐことができる使い捨ておむつを提供する。
【解決手段】　トップシート２と、バックシート３と、それらシート２，３の間に介在するコア４と、トップシート２の外面で環状に延びる第１防漏シート５とを備えた積層パネル１で構成され、パネル１の後半部位１ｅに位置する第１防漏シート５の外周縁部５ａが、パネル１に固着されて第１防漏シート５の略中央部に第１開口部７が画成され、第１防漏シート５を囲繞して環状に延びる第２防漏シート６が、パネル１の前後半部分１ｄ，１ｅに位置し、第２防漏シート６の外周縁部６ａが、パネル１の周縁部に固着されて第２防漏シート６の略中央部に第２開口部８が画成されている。



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【特許請求の範囲】

【請求項１】　透液性トップシートと、不透液性バックシートと、それらシートの間に介在する吸液性コアと、前記トップシートの外面で環状に延びる液抵抗性の第１防漏シートとを備えた積層パネルで構成され、前記パネルが、互いに並行して縦方向へ延びる両側縁部と、互いに並行して横方向へ延びる前後端縁部とを有し、前記第１防漏シートの外周縁部が、前記パネルに固着されて前記第１防漏シートの略中央部に第１開口部が画成され、前記第１防漏シートの内周縁部が、前記第１開口部に沿って弾性的な伸縮性を有する使い捨ておむつにおいて、前記第１防漏シートが、前記パネルの両側縁部の寸法を前記縦方向に二分して前記横方向へ延びる横中心線近傍から前記パネルの前端縁部へ向かう前半部分と、前記横中心線近傍から前記パネルの後端縁部へ向かう後半部位とのいずれか一方に位置し、前記第１防漏シートを囲繞して環状に延びる液抵抗性の第２防漏シートが、前記パネルの前半部分と後半部分とに位置し、前記第２防漏シートの外周縁部が、前記パネルの周縁部に固着されて前記第２防漏シートの略中央部に第２開口部が画成され、前記第２防漏シートの内周縁部が、前記第２開口部に沿って弾性的な伸縮性を有することを特徴とする前記おむつ。

【請求項２】　前記第１防漏シートの外周縁部が、前記第２防漏シートの外周縁部よりも前記パネルの内側に位置し、それらシートの外周縁部の間に前記トップシートが露出している請求項１記載のおむつ。

【請求項３】　前記第１防漏シートの内周縁部が、前記第２防漏シートの内周縁部よりも前記パネルの内側に位置し、前記第１開口部の全域が、前記第２開口部から露出している請求項１または請求項２記載のおむつ。

【請求項４】　前記第１防漏シートと前記第２防漏シートとが、不織布で形成され、前記第１防漏シートの耐水圧が、前記第２防漏シートのそれ以上である請求項１ないし請求項３いずれかに記載のおむつ。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は、排泄物を吸収、保持するための使い捨ておむつに関する。

【０００２】

【従来の技術】特開平５－２７７１４９号公報は、透液性トップシートと、不透液性バックシートと、それらシートの間に介在する吸液性コアと、トップシートの外面に位置して環状に延びる液抵抗性の上面シートとを備え、上面シートの外周縁部が、トップシートの外面に接合されて上面シートの略中央部に縦方向へ長い開口部が画成され、上面シートの開口部の周縁部に縦方向へ伸縮する弾性部材が取り付けられた使い捨ておむつを開示している。おむつは、トップシートの外面に環状に延びる上面シートを取り付けることで、おむつの両側縁部と前後端縁部とからの排泄物の漏れを防止することができる。

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【０００３】

【発明が解決しようとする課題】特開平５－２７７１４９号公報に開示のおむつは、開口部の内側に排泄された尿と便とを分離することができないので、トップシートの外面を流動する尿と軟便、水様便とが混じり合ってしまったり、固形の便であっても尿と混じり合って軟便化してしまうことがある。尿と便との混合物が着用者の肌に付着した場合、着用者が不快感を覚える。

【０００４】本発明の課題は、排泄された尿と便とがおむつの両側縁部と前後端縁部とから漏れることを防ぎつつ、それら尿と便とが混じり合うことを防ぐことができる使い捨ておむつを提供することにある。

【０００５】

【課題を解決するための手段】前述した課題を解決するために、本発明が前提とするところは、透液性トップシートと、不透液性バックシートと、それらシートの間に介在する吸液性コアと、前記トップシートの外面で環状に延びる液抵抗性の第１防漏シートとを備えた積層パネルで構成され、前記パネルが、互いに並行して縦方向へ延びる両側縁部と、互いに並行して横方向へ延びる前後端縁部とを有し、前記第１防漏シートの外周縁部が、前記パネルに固着されて前記第１防漏シートの略中央部に第１開口部が画成され、前記第１防漏シートの内周縁部が、前記第１開口部に沿って弾性的な伸縮性を有する使い捨ておむつである。

【０００６】かかる前提において、本発明が特徴とするところは、前記第１防漏シートが、前記パネルの両側縁部の寸法を前記縦方向に二分して前記横方向へ延びる横中心線近傍から前記パネルの前端縁部へ向かう前半部分と、前記横中心線近傍から前記パネルの後端縁部へ向かう後半部位とのいずれか一方に位置し、前記第１防漏シートを囲繞して環状に延びる液抵抗性の第２防漏シートが、前記パネルの前半部分と後半部分とに位置し、前記第２防漏シートの外周縁部が、前記パネルの周縁部に固着されて前記第２防漏シートの略中央部に第２開口部が画成され、前記第２防漏シートの内周縁部が、前記第２開口部に沿って弾性的な伸縮性を有することにある。

【０００７】本発明の実施の態様の一例としては、前記第１防漏シートの外周縁部が、前記第２防漏シートの外周縁部よりも前記パネルの内側に位置し、それらシートの外周縁部の間に前記トップシートが露出している。

【０００８】本発明の実施の態様の他の一例としては、前記第１防漏シートの内周縁部が、前記第２防漏シートの内周縁部よりも前記パネルの内側に位置し、前記第１開口部の全域が、前記第２開口部から露出している。

【０００９】本発明の実施の態様の他の一例としては、前記第１防漏シートと前記第２防漏シートとが、不織布で形成され、前記第１防漏シートの耐水圧が、前記第２

防漏シートのそれ以上である。

【００１０】

【発明の実施の形態】添付の図面を参照して、本発明に係る使い捨ておむつの詳細を説明すると、以下のとおりである。

【００１１】図１は、使い捨ておむつの部分破断斜視図である。おむつは、透液性トップシート２と、不透液性バックシート３と、トップシート２とバックシート３との間に介在する吸液性コア４と、トップシート２の外面の側で環状に延びる液抵抗性の第１防漏シート５と、トップシート２の外面の側で第１防漏シート５を囲繞して環状に延びる液抵抗性の第２防漏シート６とを備えた積層パネル１で構成されている。パネル１は、縦方向に前胴周り域２０と、後胴周り域２２と、前後胴周り域２０，２２との間に位置する股下域２１とを有し、互いに並行して縦方向へ延び、股下域２１においてパネル１の内方へ向かって弧を画く両側縁部１ａと、互いに並行して横方向へ延びる前後端縁部１ｂ，１ｃとを有する。

【００１２】第１防漏シート５は、パネル１の両側縁部１ａの寸法を縦方向に二分して横方向へ延びる横中心線Ｙ近傍からパネル１の後端縁部１ｃへ向かう後半部分１ｅに位置し、環状に延びる外周縁部５ａと、外周縁部５ａの内側で環状に延びる内周縁部５ｂと、互いの当接下に接合された縦方向両端部５ｃとを有する。

【００１３】第１防漏シート５の略中央部には、股下域２１の略半分と後胴周り域２２の略半分とが露出する縦方向へ長い第１開口部７が画成されている。第１開口部７ではトップシート２が露出している。第１防漏シート５の内周縁部５ｂには、弾性伸縮性部材８が伸長状態で取り付けられている。

【００１４】第２防漏シート６は、横中心線Ｙ近傍からパネル１の前端縁部１ｂへ向かう前半部分１ｄとパネル１の後半部分１ｅとに位置し、環状に延びる外周縁部６ａと、外周縁部６ａの内側で環状に延びる内周縁部６ｂと、互いの当接下に接合された縦方向両端部６ｃとを有する。

【００１５】第２防漏シート６の略中央部には、股下域２１と前後胴周り域２０，２２の略半分とが露出する縦方向へ長い第２開口部９が画成されている。第２防漏シート６の内周縁部６ｂは、第１防漏シート５の内周縁部５ｂの外側に位置し、第２開口部９が第１開口部７を囲繞している。第２開口部９では、パネル１の前半部分１ｄにトップシート２が露出し、パネル１の後半部分１ｅに第１開口部７の全域が露出している。第２防漏シート６の内周縁部６ｂには、弾性伸縮性部材１０が伸長状態で取り付けられている。第２防漏シート６の外周縁部６ａからは、外周縁部６ａの周り方向外方へ液抵抗性の支持シート１５が延びている。

【００１６】パネル１の両側縁部１ａには、縦方向へ延びる脚周り用弾性部材１１が伸長状態で取り付けられ、パネル１の前後端縁部１ｂ，１ｃには、横方向へ延びるフィルム状の胴周り用弾性部材１２，１３がトップシート２とバックシート３との間に介在し、それらシート２，３のうちの少なくとも一方の内面に伸長状態で取り付けられている。後胴周り域２２におけるパネル１の両側縁部１ａには、横方向内方へ延びるテープファスナ１４が取り付けられ、前胴周り域２０におけるバックシート３の外面には、テープファスナ１４の止着域となる矩形のターゲットテープ（図示せず）が取り付けられている。

【００１７】図１では、第１，２防漏シート５，６に取り付けられた弾性部材８，１０と脚周り用弾性部材１１と胴周り用弾性部材１２，１３との伸長状態が解除され、第１，２防漏シート５，６の内周縁部５ａ，６ａとパネル１の両側縁部１ａとパネル１の前後端縁部１ｂ，１ｃとに沿ってギャザーが形成されている。

【００１８】図２，３は、図１のＡ－Ａ線矢視断面を示すおむつの斜視図と、図１のＢ－Ｂ線矢視断面図とである。第１防漏シート５は、その外周縁部５ａの一部がパネル１の内方へ折曲された状態で、トップシート２の外面に固着され、その内周縁部５ｂの一部がパネル１の内方へ折曲されて弾性部材８を被覆している。第１防漏シート５の縦方向両端部５ｃでは、縦方向両端部５ｃの固着域がパネル１の縦方向外方へ向かって延びている。

【００１９】第２防漏シート６は、その外周縁部６ａの一部がパネル１の内方へ折曲された状態で支持シート１５の外面に固着され、その内周縁部６ｂの一部がパネル１の内方へ折曲されて弾性部材１０を被覆している。第２防漏シート６の縦方向両端部６ｃでは、縦方向両端部６ｃの固着域がパネル１の縦方向外方へ向かって延びている。

【００２０】後半部分１ｅでは、第１防漏シート５の外周縁部５ａと第２防漏シート６の外周縁部６ａとが互いに離間し、それらシート５，６の外周縁部５ａ，６ａどうしの間でトップシート２が露出している。パネル１が、その内面を内側にして縦方向と横方向とに湾曲すると、第１防漏シート５とトップシート２とがパネル１の内方へ向かって開口するポケットＰ１を形成し、第２防漏シート６とトップシート２とがパネル１の内方へ向かって開口するポケットＰ２を形成する。

【００２１】トップシート２は、コア４の両側縁部４ａから横方向外方へわずかに延出し、コア４の両端縁部４ｂから縦方向外方へわずかに延出している。バックシート３と支持シート１５とは、トップシート２の周縁からさらに横方向外方と縦方向外方とへ延出している。支持シート１５の内面は、トップシート２の外面とバックシート３の内面とに固着されている。バックシート３と支持シート１５との間には、脚周り用弾性部材１１が介在し、それらシート３，１５のうちの少なくとも一方の内面に伸長状態で取り付けられている。コア４は、トップ

シート２とバックシート３との少なくとも一方の内面に接合されている。

【００２２】パネル１は、テープファスナ１４の自由端部の内面に塗布された粘着剤を介して、テープファスナ１４をターゲットテープに止着すると、左右一対の脚周り開口と、胴周り開口とが形成される（図示せず）。

【００２３】パネル１は、パネル１の前半部分１ｄで開口する第２開口部９内に排泄された尿がトップシート２を通してコア４に吸収され、パネル１の後半部分１ｅで開口する第１開口部７内に排泄された便がトップシート２を通してコア４に吸収される。第１防漏シート５は、パネル１の前後半部分１ｄ，１ｅにおいて尿吸収域と便吸収域とを分離する機能を有するので、第１防漏シート５が障壁となって、第１開口部７内に排泄された便がパネル１の前半部分１ｄに侵入することや尿が第１開口部７内に侵入することを防止することができ、尿と便とが互いに混じり合ってしまうことを防ぐことができる。

【００２４】パネル１では、排泄された便をポケットＰ１に収容することができるので、大量の便が排泄されたとしても、便がパネル１の前半部分１ｄへ侵入することを防止することができる。パネル１の前半部分１ｄに排泄された尿がパネル１の後端縁部１ｃへ向かって流動した場合でも、パネル１の後半部分１ｅに位置する第１防漏シート５の外周縁部５ｂと第２防漏シート６の外周縁部６ｂとの間を流れることができるので、パネル１の後半部分１ｅにおいても尿を吸収することができる。

【００２５】トップシート２には、不織布や開孔プラスチックフィルム等の透液性のシート、好ましくは透液性であって親水性のシートが使用される。バックシート３には、不透液性のプラスチックフィルムまたはプラスチックフィルムと疎水性不織布とのラミネートシート、好ましくは通気不透液性のシートが使用される。第１，２防漏シート５，６と支持シート１５とには、通気性不織布、好ましくは通気不透液性の不織布が使用される。第１防漏シート５の耐水圧は、第２防漏シート６のそれ以上であり、第１防漏シート５の耐水圧が、１５０～５００ｍｍの範囲、第２防漏シート６の耐水圧が、５０～３００ｍｍの範囲にあることが好ましい。便には、タンパク質や脂質等の有機物が多く含まれているので、尿と比較してそれら防漏シート５，６に対する表面張力が小さい。また、不織布を形成する繊維がポリオレフィン系樹脂である場合、便中の有機物とポリオレフィン系樹脂とが親和性を有するので、尿と比較して便が不織布に滲入し易い。ゆえに、便が第１防漏シート５に滲入し難くするため、第２防漏シート６よりも第１防漏シート５の耐水圧を高くしている。

【００２６】不織布としては、スパンレース、ニードルパンチ、メルトブローン、サーマルボンド、スパンボンド、ケミカルボンド等の不織布を使用することができる。不織布の構成繊維としては、ポリオレフィン系、ポリエステル系、ポリアミド系、の各繊維、ポリエチレン／ポリプロピレンまたはポリエステルの複合繊維等を使用することができる。

【００２７】コア４は、フラッフパルプと高吸収性ポリマー粒子との混合物であり、所要の厚みに圧縮され、全体がティシュペーパ等の透水性シートによって被覆されている。弾性部材８，１０，１１，１２，１３としては、合成ゴムや天然ゴム等のエラストマー、または、それらエラストマーを伸長状態で不織布に固着したものを使用することができる。コア４の接合、弾性部材８，１０，１１，１２，１３の取り付け、シート２，３，５，６，１５どうしの固着には、ホットメルト接着剤等の接着剤や粘着剤の他に、熱溶着の技術を利用することができる。

【００２８】パネル１には、第１防漏シート５がパネル１の前半部分１ｄに配置され、パネル１の前半部分１ｄに第１開口部７が画成されていてもよい。この場合は、パネル１の前半部分１ｄで開口する第１開口部７内に排泄された尿がトップシート２を通してコア４に吸収され、パネル１の後半部分１ｅで開口する第２開口部９内に排泄された便がトップシート２を通してコア４に吸収される。前半部分１ｄでは、第１防漏シート５が障壁となって、便が第１開口部７内に侵入することや尿がパネル１の後半部分１ｅに侵入することを防止することができ、尿と便とが互いに混じり合ってしまうことを防ぐことができる。

【００２９】この発明は、図に示す開放型のおむつの他に、パンツ型のおむつでも実施することができる。

【００３０】

【発明の効果】本発明に係る使い捨ておむつによれば、排泄された尿と便とのうちのいずれか一方が流動しようとしても、第１防漏シートが障壁となるので、それら尿と便とが混じり合ってしまうことを防ぐことができる。第１防漏シートと第２防漏シートとがトップシートの外面で環状に延びているので、排泄された尿と便とがおむつの両側縁部と前後端縁部とから漏れてしまうことを防ぐことができる。

【図面の簡単な説明】

【図１】使い捨ておむつの部分破断斜視図。

【図２】図１のＡ－Ａ線矢視断面を示すおむつの斜視図。

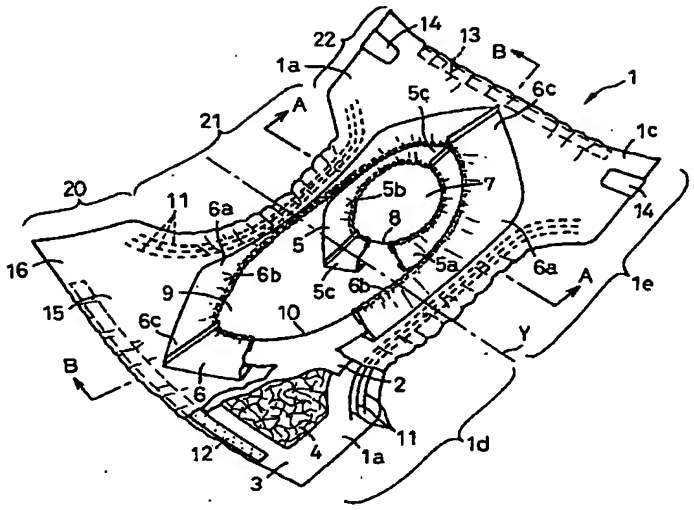
【図３】図１のＢ－Ｂ線矢視断面図。

【符号の説明】

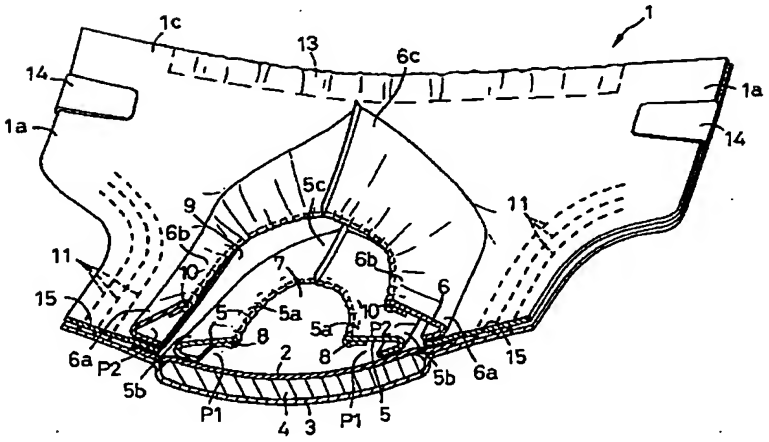
１	積層パネル
１ａ	両側縁部
１ｂ	前端縁部
１ｃ	後端縁部
１ｄ	前半部分
１ｅ	後半部分
２	透液性トップシート

3	不透液性バックシート	＊６ａ	外周縁部
4	吸液性コア	６ｂ	内周縁部
5	第１防漏シート	7	第１開口部
5ａ	外周縁部	9	第２開口部
5ｂ	内周縁部	Y	横中心線
6	第２防漏シート	＊	

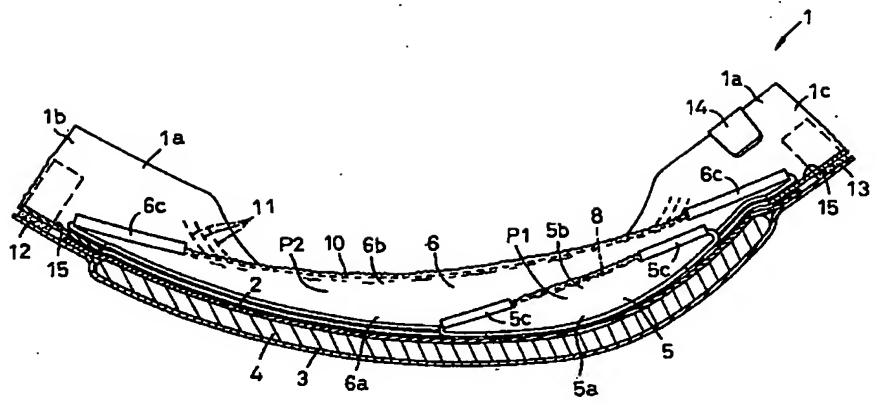
【図１】



【図２】



【図３】



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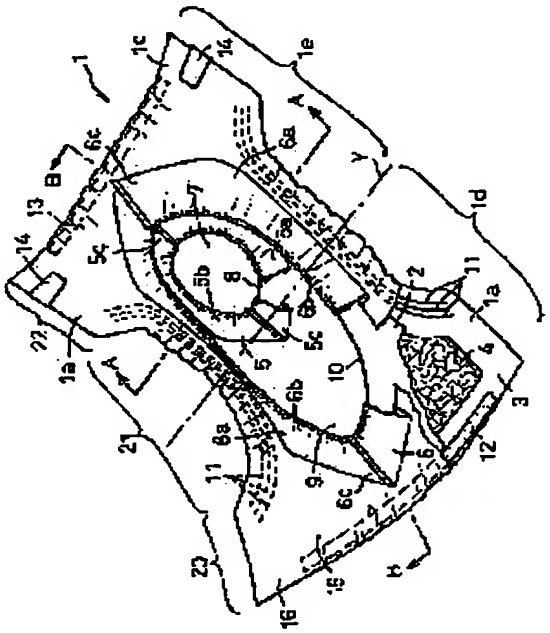
(72)Inventor : **MISHIMA SACHIYOSHI**
OTSUBO TOSHIBUMI

(54) DISPOSABLE DIAPER

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent the mixing of discharged urine with stool.

SOLUTION: A disposable diaper is constituted of a laminated panel 1 consisting of a top sheet 2, a back sheet 3, the core 4 interposed between these sheets 2, 3 and the first leak-proof sheet 5 extending on the outer surface of the top sheet 2 in an annular shape and the outer peripheral edge part 5a of the first leak-proof sheet 5 positioned on the latter half region 1e of the panel 1 is fixed to the panel 1 to demarcate a first opening part 7 to the almost central part of the first leak-proof sheet 5 and the second leak-proof sheet 6 surrounding the first leak-proof sheet 5 to extend in an annular shape is positioned on the first and latter half parts 1d, 1e of the panel 1 and the outer peripheral edge part 6a of the second leak-proof sheet 6 is fixed to the peripheral edge part of the panel 1 to demarcate a second opening part 8 to the almost central part of the second leak-proof sheet 6.



LEGAL STATUS

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